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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,437

05/14/2008

Byung Hwan Ahn

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EXAMINER

NGUYEN, HANH N

ART UNIT

PAPER NUMBER

2834

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,437	Applicant(s) AHN, BYUNG HWAN	
	Examiner HANH N. NGUYEN	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 1, 11 and 17 are objected to because of the following informalities: the limitation “the bottom of the rotor frame is elevated in a direction of extension of the side wall on the whole” is not descriptive because the drawings and the specification does not define “a direction of extension of the side wall on the whole”. In view of the specification (page 9, lines 1-7), the Examiner interprets the limitation as “the bottom of the rotor frame is positioned at a middle of a height of the side wall of the rotor frame”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Okuda (JP 2001-339925).

Regarding claim 1, Okuda disclose an outer rotor having a rotor frame with a bottom (32 in Fig. 6), a side wall (33) extended from a circumference of the bottom substantially perpendicular to the bottom, and magnets (34) mounted on an inside of the side wall, wherein the bottom of the rotor frame is elevated in a direction of extension of the side wall on the whole (please compare Fig. 3 of Okuda to Fig. 4 of the present invention).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda in view of Shin et al (US 6,396,177).

Regarding claims 11 and 17, Okuda show all limitations of the claimed invention except showing the rotor frame includes a plurality of cooling fins projected from the bottom to a direction opposite to a direction of extension of the side wall, and a plurality of pass through holes formed in the bottom by lancing at the same time with the pass through holes.

However, Shin et al. disclose a rotor frame includes a plurality of cooling fins (717 in Fig. 7A) projected from the bottom to a direction opposite to a direction of extension of the side wall, and a plurality of pass through holes (516) formed in the bottom by lancing at the same time with the pass through holes for the purpose of facilitating an external air inflow (abstract).

Since Okuda and Shin et al. are in the same field of endeavor, the purpose disclosed by Shin et al. would have been recognized in the pertinent art of Okuda.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Okuda by forming a plurality of cooling fins

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projected from the bottom to a direction opposite to a direction of extension of the side wall, and a plurality of pass through holes formed in the bottom by lancing at the same time with the pass through holes as taught by Shin et al. for the purpose of facilitating an external air inflow.

Regarding claim 2, Shin et al. also show the outer rotor wherein the outer rotor is constructed of steel plate.

Regarding claim 3, Shin et al. also show the outer rotor wherein the rotor frame includes a plurality of cooling fins (517 in Fig. 7b) projected from the bottom to an outside of the rotor frame, and a plurality of pass through holes (516) in the bottom.

Regarding claims 4 and 12, Okuda disclose an outer rotor wherein the bottom has a height of the elevation of with respect to a lower end of the side wall the same with a height of the projection of the cooling fin (43 in Fig. 5) from the bottom, substantially.

Regarding claim 5, Shin et al. also show the outer rotor wherein the cooling fins (517 in Fig. 6) and the pass through holes (516) are formed by lancing.

Regarding claims 6 and 13, Shin et al. also show the outer rotor wherein the cooling fin (517 in Figs. 7a, 7b) is sloped by an angle from the bottom of the rotor frame.

Regarding claims 7 and 14, Shin et al. also show the outer rotor wherein the cooling fin is formed at one side of the pass through hole on an opposite side of a rotation direction of the motor at the time of spinning.

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Regarding claims 8 and 16, Shin et al. also show the outer rotor wherein the cooling fin has an acute angle from a horizontal plane of the pass through hole in the bottom of the rotor frame.

Regarding claim 9, Shin et al. also show the outer rotor wherein the cooling fin is sloped by an angle α from the bottom of the rotor frame, Okuda and Shin do not show cooling fins at adjacent pass through holes are formed in opposite directions, alternately. It would have been an obvious matter of design choice to make cooling fins at adjacent pass through holes are formed in opposite directions, alternately, since such modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Regarding claims 10 and 20, Shin et al. also show the outer rotor wherein the cooling fin has an acute angle from a horizontal plane of the pass through hole in the bottom of the rotor frame.

Regarding claim 15, Shin et al. also disclose the outer rotor wherein the cooling fin (317 in Fig. 7a, 7b) has a right angle, upright, from the bottom of the rotor frame, substantially.

Regarding claim 18, It would have been an obvious matter of design choice to make the cooling fins opposite to each other with respect to adjacent pass through hole, since such modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

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Regarding claim 19, Shin et al. also disclose the outer rotor wherein the cooling fin is at one side of the pass through hole opposite to a rotation direction of the motor at the time of spinning, for easy air flow toward the pass through hole (inherent as described in Col. 5, lines 45-57).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (571) 272-2031. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung, can be reached on (571) 272-8188. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1000.

HNN

April 4, 2009

/Nguyen N Hanh/

Primary Examiner, Art Unit 2834

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